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TITLE:
Blister Packaging Medication to Increase Treatment Adherence and Clinical Response: Impact on Suicide-related Morbidity and Mortality

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13. SUPPLEMENTARY NOTES

14. ABSTRACT
Purpose and Scope:
Medication overdoses account for substantial numbers of suicide-related behaviors in several segments of the US population, including active duty military. The purpose of this study was to determine if medication administration via blister packaging was associated with an increase in treatment adherence and a decrease in suicide-related overdoses among high risk patient populations. Facilitating individuals taking their medication as prescribed was expected to be associated with symptom improvement and a decrease in associated distress. In turn this improvement was expected to decrease overall suicide risk. Also, creating appropriate means restriction was expected to result in reduced morbidity and mortality resulting from intentional and accidental overdoses. The primary study hypothesis was that patients in the Blister Pack (BP) condition would have better treatment adherence with their regular prescription medications than patients in the Dispense as Usual (DAU) condition. A secondary hypothesis was that patients in the BP condition would have significantly better treatment adherence with their PRN (i.e., as needed) medications than patients in the DAU condition. The second primary hypothesis was that patients in the BP condition would have fewer overdoses than patients in the DAU condition. Two exploratory hypotheses were also tested. The first was that patients in the BP condition would report less symptom distress than patients in the DAU condition. The second was that patients in the BP condition would have fewer negative medical/psychiatric outcomes (i.e., emergency department (ED) visits, intensive care unit (ICU) admissions, and psychiatric inpatient admissions) for suicide-related behaviors than patients in the DAU condition.
Overall Progress:
Year one involved hiring and training staff, preparing all regulatory documents and submitting them for approval, then initiating participant recruitment through baseline and follow-up assessments. Year two focused on recruiting for and completing the feasibility phase of the study, and making necessary protocol amendments prior to the full-trial phase of the study. Year three focused on recruitment and data collection for the full trial phase. Year four continued to focus on recruitment and data collection. We were also approved for a one year No-Cost Extension for year five of the study which focused on wrapping up recruitment and data collection, data cleaning, data analysis and preparing final reports.

Results:
All data collection is complete and has been checked and cleaned.

The primary study hypothesis was supported. Participants in the blister pack condition were more adherent with their medications at the 12-month follow-up for the medication on which their adherence was worst. Additionally, the change in adherence from 1-month to 12-month follow-up was significant such that participants in the blister pack condition improved by 28.8% whereas those in the DAU condition worsened by 36.6%. There were no significant differences in patient adherence to PRN medications. The second primary hypothesis could not be tested as there were no overdoses in either condition. The first exploratory hypothesis was supported by BP participants reporting a decrease in symptom distress from both 1 to 3 months and 1 to 6 months whereas participants in the DAU condition reported increases in symptom distress over the same comparison periods. While these differences were statistically significant, they were too small to be deemed clinically significant. The second exploratory hypothesis was not supported in that there were no differences in emergency department visits, psychiatric hospitalizations, or other hospitalizations across conditions. There was only one intensive care unit admission in the entire study, and it was not related to a suicide attempt.

Significance:

Blister packaging medications improves patient adherence with their prescribed regimen. However, this relationship is complicated as it was observed only for the medication with which participants were least adherent overall. It is interesting to note that the difference between the two conditions was seen only at the final 12-month follow-up and in looking at the overall change in adherence from 1 month to 12 months. Participant adherence in the blister pack condition gradually increased over the course of the study while in the control condition it gradually decreased. While there are multiple mechanisms through which blister packaging may facilitate medication adherence, we propose that this form of packaging changes people's relationship with their medications over time. They may develop a greater sense of self-efficacy secondary to taking their medications. Anecdotal evidence from a participant satisfaction questionnaire administered during the final follow-up suggests patients were more aware of when they should be taking their medications because of the blister packs. It is also possible that because patients knew they were in the blister pack condition, it created more social demand for them to take their medications. Although not assessed as part of the study, a greater awareness of how patients were taking their medications may have contributed to more and better communication with their providers. There may also be an interaction between how patients take their medications and how they feel overall. In addition to finding that patients were more adherent in the blister pack condition, they also reported less symptom distress than patients in the control condition. But due to the small differences, additional research is necessary before concluding that blister packaging meaningfully decreases symptom distress. Although we were unable to test the hypothesis specific to suicide prevention, the results clearly support a significant benefit to blister packaging medications and the need for additional research in this area. We believe that the observed significant benefits of blister packaging medications for patients at high risk of suicide justify further study to determine how this approach can best be used to manage suicide risk, improve patient functioning, and provide a cost-effective element of comprehensive care.

15. SUBJECT TERMS

- Medication adherence
- Symptom improvement
- Patient safety

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
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Final Report to Department of Defense

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"Blister Packaging Medication to Increase Treatment Adherence and Clinical Response: Impact on Suicide-related Morbidity and Mortality"

Table of Contents:

REPORT OF INVENTIONS AND SUBCONTRACTS

(Pursuant to "Patent Rights" Contract Clause) (See Instructions on back)

Form Approved
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PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION. RETURN COMPLETED FORM TO THE CONTRACTING OFFICER.

1.a. NAME OF CONTRACTOR/SUBCONTRACTOR	c. CONTRACT NUMBER	2.a. NAME OF GOVERNMENT PRIME CONTRACTOR	c. CONTRACT NUMBER	3. TYPE OF REPORT *(X one)*
Military Operational Medicine Research Prog	W81XWH-08-MOMRP	Denver Research Institute	373	a. INTERIM [X] b. FINAL [ ]
b. ADDRESS *(Include ZIP Code)*	**d. AWARD DATE** *(YYYYMMDD)*	**b. ADDRESS** *(Include ZIP Code)*	**d. AWARD DATE** *(YYYYMMDD)*	**4. REPORTING PERIOD** *(YYYYMMDD)*
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SECTION I - SUBJECT INVENTIONS

5. "SUBJECT INVENTIONS" REQUIRED TO BE REPORTED BY CONTRACTOR/SUBCONTRACTOR *(If "None," so state)*

NAME(S) OF INVENTOR(S) *(Last, First, Middle Initial)* a.	TITLE OF INVENTION(S) b.	DISCLOSURE NUMBER, PATENT APPLICATION SERIAL NUMBER OR PATENT NUMBER c.	ELECTION TO FILE PATENT APPLICATIONS *(X)* d.				CONFIRMATORY INSTRUMENT OR ASSIGNMENT FORWARDED TO CONTRACTING OFFICER *(X)* e.	
			(1) UNITED STATES		(2) FOREIGN			
			(a) YES	(b) NO	(a) YES	(b) NO	(a) YES	(b) NO
N/A	N/A	N/A		X		X		X

f. EMPLOYER OF INVENTOR(S) NOT EMPLOYED BY CONTRACTOR/SUBCONTRACTOR		g. ELECTED FOREIGN COUNTRIES IN WHICH A PATENT APPLICATION WILL BE FILED	
(1) (a) NAME OF INVENTOR *(Last, First, Middle Initial)* N/A	(2) (a) NAME OF INVENTOR *(Last, First, Middle Initial)* N/A	(1) TITLE OF INVENTION	(2) FOREIGN COUNTRIES OF PATENT APPLICATION
(b) NAME OF EMPLOYER N/A	(b) NAME OF EMPLOYER N/A	N/A	N/A
(c) ADDRESS OF EMPLOYER *(Include ZIP Code)* N/A	(c) ADDRESS OF EMPLOYER *(Include ZIP Code)* N/A		

SECTION II - SUBCONTRACTS *(Containing a "Patent Rights" clause)*

6. SUBCONTRACTS AWARDED BY CONTRACTOR/SUBCONTRACTOR *(If "None," so state)*

NAME OF SUBCONTRACTOR(S) a.	ADDRESS *(Include ZIP Code)* b.	SUBCONTRACT NUMBER(S) c.	FAR "PATENT RIGHTS" d.		DESCRIPTION OF WORK TO BE PERFORMED UNDER SUBCONTRACT(S) e.	SUBCONTRACT DATES *(YYYYMMDD)* f.	
			(1) CLAUSE NUMBER	(2) DATE *(YYYYMM)*		(1) AWARD	(2) ESTIMATED COMPLETION
N/A	N/A	N/A	N/A		N/A		

SECTION III - CERTIFICATION

7. CERTIFICATION OF REPORT BY CONTRACTOR/SUBCONTRACTOR *(Not required if: (X as appropriate))* [ ] **SMALL BUSINESS or** [ ] **NONPROFIT ORGANIZATION**

I certify that the reporting party has procedures for prompt identification and timely disclosure of "Subject Inventions," that such procedures have been followed and that all "Subject Inventions" have been reported.

a. NAME OF AUTHORIZED CONTRACTOR/SUBCONTRACTOR OFFICIAL *(Last, First, Middle Initial)*	b. TITLE	c. SIGNATURE	d. DATE SIGNED

1. Introduction:

The purpose of this study was to determine if participants' adherence with prescribed medications would be enhanced as a function of how those medications were dispensed. Specifically, it was hypothesized that adherence would be better when medications were blister packaged versus dispensed in standard pill vials. Previous research supports a range of benefits to blister packaging medications for at-risk patients (Llorca, 2008; Bosworth et al., 2005; Dolder, Lacro, & Jeste, 2003). Non-adherence, defined as "not having a prescription filled, not taking enough medication, taking too much medication, not observing the correct interval between doses, not observing the correct duration of treatment and taking additional non-prescribed medication" (Bosworth, Oddone, & Weinberger, 2005, p. 149), is a significant issue for those with psychiatric illness. Moreover, studies suggest that psychiatric symptoms interfere with adherence and partial adherence is associated with poorer psychiatric outcomes, including suicide. Specifically, those who are non-adherent are at 4-7 times greater risk of death (Llorca, 2008). Blister packaging, a structured means of dispensing medications (Bosworth et al., 2005) is expected to increase adherence, and decrease subsequent poor outcomes in patients at risk for suicide. The specific aims of this study were to: examine if blister packaging medication significantly increased medication adherence; determine if Blister Packaging decreased self-poisoning behavior; determine if Blister Packaging medications decreased overall symptom distress; determine if Blister Packaging medications reduced additional negative medical and psychiatric outcomes; and finally, determine if Blister Packaging medications reduced health care utilization.

2. Keywords:

Blister Packaging
Medication Adherence
Veterans
Interventional
Suicide Risk
Psychiatric Inpatients and Outpatients
Decreased Self-Harm Behavior

3. Overall Project Summary:

Statement of Work (updated with No-Cost Extension)

Task 1. Project Start-up (months 1-3): **Complete**

1a. Hire research assistant, pharmacy technician, and pharmacist (month 1)
- All study personnel were hired by January 2010 (month 4)

1b. Train staff (month 2)
- All study personnel were trained by April 2010 (month 7)

1c. Orient inpatient staff to study logistics (month 3)
- Accomplished by month 7

Task 2. Participant Recruitment (months 4-51): **Complete**

2a. Introducing study to appropriate patients receiving care at the Denver VA Medical Center (VAMC) (months 4-51)
2b. Securing consent to participate (months 4-51)
2c. Recording contact information (months 4-51)
2d. Creating participant data base (month 4)

Throughout the course of the study, we continually conducted internal audits to ensure that all participants had correctly signed the Consent and HIPAA forms (which they receive a copy of for their own records); had their participation in the study flagged in their electronic medical records (which also allowed the Consent and HIPAA form to be scanned into their record); and filled out the 'Additional Contacts' form so that we could verify their correct and most recent contact information, in addition to providing us with alternate forms of contact if we are unable to get a hold of the participant themselves. Once participation in the study was complete, we made a final note in their patient records indicating that the participant was no longer enrolled in the study and noted this in our 'Continuous Audit Spreadsheet'; All "Research Subject B" notes for all participants have been closed. All audit findings were recorded.

We stored the participants' contact information in a "Master Database" that was password protected. This was kept separate from the Measure Database (also password protected) where we stored all of the data we collected throughout the study for baseline and follow-up assessments. All data and forms we used for participants were kept in locked file cabinets.

We were audited by VA R&D in April 2012, March 2013, and April 2014; no issues were found.

Task 3. Baseline Assessment (months 4-51): **Completed**

3a. Administering assessment protocol to all participants (months 4-51)
3b. Entering baseline assessment data (months 4-51)

Once a participant signed the consent and HIPAA forms for the study, a research team member notified the pharmacy so that they would have time to prepare for a new participant entering the study. The Investigational Drug Section of the outpatient research pharmacy, Investigational Drug Pharmacy, would make notes in the participants' pharmacy record, randomize them to receive their medications in blister packs or pill bottles, and then package all participants' medications appropriately so that they were ready when the participant completed the baseline assessment.

For participants on the Inpatient unit, a research team member went up to the unit a few days prior to the participant's discharge to enroll eligible participants, which also included giving the participants detailed information that was necessary for their participation in the study. Participants who were recruited from the outpatient clinics complete the Consent, HIPAA, and baseline assessment on the same day. The baseline assessment typically took about an hour to complete.

Once the baseline assessment was completed, a research team member entered the assessment data into the database. The databases for the study were set up; one was for participants' contact information ('Master Database') and the other was an Assessment Database where only subject ID's were used to identify participants, so the 'Assessment Database' does not contain any PHI. Both databases are password protected and only research team members have access to them.

Task 4. Preparing Year One Quarterly Reports (months 3, 6, 9, 12): **Completed**

Year One, Quarter One's report was submitted January 20, 2010. The Year One, Quarter Two report was submitted April 15, 2010. We were exempt from the Year One, Quarter 3 report. The Year One, Quarter Four (Annual Report) report was submitted on October 13, 2010.

Task 5. Follow-Up Assessments (months 5-57): **Completed**

5a. Setting up appointments or making phone calls to administer follow-up assessments to each participant at one month intervals post-baseline (months 5-57). Giving participants cash and having them sign a receipt indicating that payment was received or mailing checks to participants following each completed assessment (months 5-57).
5b. Reviewing participants' VA medical records for clinic visits and inpatient admissions on a monthly basis (months 5-57).
5c. Entering follow-up assessment data (months 5-57).
5d. Checking entered data against raw data (months 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57).
5e. Correcting data entry errors identified in 5e (months 10, 14, 18, 22, 26, 30, 34, 38, 42, 46, 50, 54. 58)

Each follow-up assessment was scheduled for one month out from the previous assessment. Prior to the time of the follow-up assessments a research team member called the participant to remind them of their follow-up assessment, which usually took around 30 minutes. Prior to each follow-up assessment, the research team member checked the participants' VA medical records for notes regarding any clinic or hospital admissions. As soon as each of the assessments were complete, participants were paid cash or a research team member filled out the necessary form so that the participant could be mailed a check for completing their assessment. All subject payments have been made. After the follow-up assessments, the assessment data was double-entered into the database to ensure accuracy.

Study recruitment ran through December 2013. Follow-up assessments concluded June 30, 2014. Over the course of the study, we recruited 303 participants. All of the participants completed some portion of the full year of study enrollment.

Task 6. Preparing Year Two Quarterly Reports (months 15, 18, 21, 24): **Completed**

Year Two, Quarter One's report was submitted January 15, 2011, the Year Two, Quarter Two report was submitted April 15, 2011, Year Two, Quarter Three's report was submitted on June 15, 2011. Year Two, Quarter Four's report was submitted on September 15, 2011.

Task 7. Data Analyses (months 57-60): **Completed**

7a. Correcting data entry errors identified in 5e (month 57)

We re-entered 25% of our data in July 2012 to ensure that data entry was accurate; no major issues came up and we made necessary adjustments. We then did frequent data checks and corrected any problems noted. We documented all changes made.

All study data was entered by the end of July, 2014. Afterwards, we performed another data check and cleaned up the database. Data were sent to our statistician in late August, 2014. Final checking and cleaning of data was very time consuming and the analyses were far more complex than originally anticipated. Consequently, final results were received back in April 2015 so that we could prepare the final reports to MOMRP.

Task 8. Preparing Year Three Quarterly Reports (months 27, 30, 33, 36): **Completed**

Year Three, Quarter One's report was submitted January 15, 2012. The Year Three, Quarter Two report was submitted April 13, 2012. We were not required to submit a report for Year Three, Quarter Three. The Year Three, Quarter Four (Annual Report) report was submitted on September 21, 2012.

Task 9. Preparing Year Four Quarterly Reports (months 39, 42, 45, 48): **Completed**

We were not required to submit a report for Year Four, Quarter One. Year Four, Quarter Two's report was submitted April 15, 2013. Year Four, Quarter Three's report was submitted June 26, 2013. The Year Three, Quarter Four (Annual Report) report was submitted on September 18, 2013.

Task 10. Preparing Year Five Quarterly Reports (months 51, 54, 57, 60): **Completed**

Year Five, Quarter One report was submitted January 15, 2014. The Year Five, Quarter 2 report was submitted April 7, 2014. We were not required to submit a report for Year Five, Quarter Three. We were waiting on final financial reports to be processed by our grant foundation, The Denver Research Institute (DRI). The final monthly statement of cash flow was received in March of 2015. We then cross-checked these statements with our own tracking system to ensure all funds were accounted for. The financial report for Year Five, Quarter 4, the final quarter of the grant, is being submitted along with the Final Annual Report on April 24, 2015.

4. Key Research Accomplishments:

- Conducted an initial feasibility phase of the study.
  - Recognized important procedural issues that would be helpful to fix and received regulatory approval on these minor modifications.
- Received approval to send out a mass recruitment mailing to address low participation rates.
- Results support primary study hypothesis
- Planning follow-up grants to assess cost effectiveness of blister packaging medications, potential other ways blister packaging may be used as a suicide prevention intervention.

5. Conclusion:

Patients who received their medications in blister packs were more adherent at the 12-month follow-up than patients who received their medications in standard pill vials, in support of the primary study hypothesis. This difference was noted for the medication with which participants were least adherent (i.e., the one they had the most trouble staying adherent with). Additionally, the change in adherence (again, for the medication on which adherence was worst) from one month to 12 months was significantly better for patients in the blister pack condition compared with the control condition. Specifically, blister pack condition patients' adherence improved by almost 29% whereas those in the control condition worsened by almost 37%. The second hypothesis could not be tested as there were no overdoses in either the blister pack or control condition. The first exploratory hypothesis, that participants in the blister pack condition would have less symptom distress than those in the control condition was supported. Specifically, between the one and three month assessments blister pack condition participants' symptom distress scores decreased, whereas control condition participants' scores increased. The same pattern of differences was found between the one and six month follow-ups. However, the changes were so small that they cannot be considered clinically significant. The second exploratory hypothesis, that patients in the BP condition would have fewer negative medical/psychiatric outcomes than patients in the control condition was not supported. There were no significant differences between conditions in the number of emergency department visits, psychiatric

inpatient hospitalizations, or other hospitalizations. There was only one intensive care unit admission in the entire sample, and it was unrelated to a suicide attempt.

6. Publications, Abstracts, and Presentations:

1. It was requested that the study present preliminary data and study progress at the 2014 VA Research Day.

2. The study was accepted to present preliminary data collaborating with several other nationally-based studies. This symposium looked at Baseline Data from DoD and OEF/OIF Veteran clinical trials at the 2014 American Association of Suicidology Annual Conference.

    a. Abstract from AAS Symposium: This symposium presented analyses of pooled data from the baseline assessment point of 10 randomized clinical trials currently in progress or recently completed with suicidal active duty Service Members or Veterans. While each of these studies compares different clinical interventions, all baseline assessments were conducted before randomization to treatment. Therefore, the combined baseline assessments provide the opportunity to study a very large sample of the suicidal help-seeking military population. The pooled dataset yielded over 1000 participants for this symposium. All active duty and Veteran participants were recruited due to (a) recent thoughts of ending their lives or recent suicide attempt or (b) presentation for medical or behavioral treatment in a Department of Defense or Veterans Administration treatment setting. Outcomes were suicidal ideation and suicide attempts at baseline and predictors included military-specific information (such as number of combat deployments, active duty vs Veteran, and rank/duty position), measures of psychological distress and resiliency, PTSD symptoms, stressors, and family factors (such as marital status and children). Both the outcomes and predictors are common or comparable between multiple, if not all, studies. Four specific presentations were included in this symposium, each with the same outcomes: severity of suicidal ideation and the presence and lethality of lifetime and recent suicide attempts. The four proposed presentations were: (1) Impact of military-specific variables, e.g., number of combat deployments. Preliminary analysis indicated no relationship between deployment and suicidal ideation or attempts; (2) Impact of resiliency and psychological distress. Preliminary analysis indicated that both higher PTSD symptoms as well as lower resiliency predict more severe suicidal ideation and a recent attempt; (3) Impact of social factors and life stressors on suicidal ideation and behavior; and (4) Differences between suicidal OEF/OIF Veterans compared to active duty Service Members in their suicidal ideation and behavior as well as psychological and other factors.

3. The study was accepted to present preliminary psychometric data for the Self-Harm Behavior Questionnaire (SHBQ; Gutierrez, Osman, Barrios & Kopper, 2001) at the 2013 American Psychological Association Annual Convention.

    a. Data from APA Poster:

    N=205
    The internal consistency reliability estimate (i.e., coefficient alpha) for the SHBQ total score was .93, and the subscale alphas ranged from .96 - .98 (SHB=0.98, SHA=0.97, SHT=0.96, SHI=0.96). We used the SHBQ total score cut-off of 22 to predict membership in suicidal versus not suicidal groups based on the suicidality scale of the M.I.N.I.. This resulted in sensitivity of .52 [95% CI (0.43, 0.62)] and specificity of 0.96 [95% CI (0.90, 0.99)]. We then ran a logistic regression with current suicidality (Y/N on M.I.N.I. Suicide scale) as the outcome and SHBQ score as the predictor, the area under the curve (AUC) was 0.90, 95% CI (0.86, 0.95). With a cut-off of 9 sensitivity = 0.87 (95% CI 0.80, 0.93) and specificity = 0.85 (95% CI 0.76, 0.92). With a cut-off of 10 Sensitivity = 0.86 (95% CI 0.79, 0.92) and specificity = 0.88 (95% CI 0.78, 0.94).

    Assessment of the SHBQ's psychometric properties when used with high-risk Veterans suggests that it is a valid and reliable measure of self-directed violence. Although the published cut-off score (based on adult psychiatric inpatients) yielded acceptable specificity, the sensitivity was unacceptably low for a measure of suicide risk. However, follow-up analyses indicated that a more conservative cut-off score of 9 performs much better and would yield reasonable results in clinical settings. While additional analyses regarding other psychometric properties such as convergent and divergent validity need to be conducted, we are encouraged about the potential for this measure in research and clinical settings with Veterans at high risk of self-directed violence.

4. A book chapter describing the background for the study, methodological overview, and potential impact of the findings has been published:

    Gutierrez, P. M., Brenner, L. A., Wortzel, H., Harwood, J. E. F., Leitner, R., Rings, J., & Bartlett, S. (2012). Blister packaging medication to increase treatment adherence and clinical response: Impact on suicide-related morbidity and mortality. In J. Lavigne & J. Kemp (Eds.), *Frontiers in suicide prevention and research*. Hauppauge, NY: Nova Science Publishers, Inc.

5. The symposium described above in #2 is being written up as a special section for the journal *Military Behavioral Health*. Dr. Gutierrez is serving as the action editor for the special section and will write an introductory article as well as contributing as a co-author to one of the four articles in the special section. The articles will appear in the summer 2015 issue of the journal.

7. Inventions, Patents and Licenses:

N/A

8. Reportable Outcomes:

Prior to testing the study hypotheses participants in the blister pack (BP) and control (DAU) conditions were compared demographic and clinical variables to confirm there were no issues with randomization to condition. Significant differences were found for the following variables: there were 8% more males in the control condition, 12% more participants in the control condition had a service connection for a military incurred disability, control condition participants were taking an average of 1.5 more medications, 13% more participants in the blister pack condition had been diagnosed with alcohol abuse, and 12% more participants in the blister pack condition had been diagnosed with alcohol dependence. As a result, these variables were controlled for in all analyses.

To test the primary hypothesis that patients in the Blister Pack (BP) condition would have better treatment adherence with their regular prescription medications, as assessed by their monthly Brief Adherence Rating Scale (BARS) rating, than patients in the Dispense as Usual (DAU) condition we ran a natural-spline varying coefficient model that accounted for dropout and allowed each group to have a nonlinear change in distance from adherence over time. This model allowed the change in distance from adherence to vary smoothly as a function of dropout time and we searched to determine the appropriate degrees of freedom for each group, using the minimum Akaike's Information Criterion (AIC) to make the determination.

For the nonlinear piece, we first searched for the appropriate degrees of freedom for each group (bspline transformation on time), fixed those and then ran the search for the degrees of freedom on the dropout time. The outcome of adherence was modeled in two ways: 1) the MEAN distance from perfect adherence for all medications by month within a participant and 2) the MAXIMUM (worst) distance from perfect adherence by month within a participant (the medication with the worst adherence may change from month to month). The final MEAN distance from adherence model included 1 degree of freedom (df) on time for the BP group (linear) and 2 df on time for the control group. Regarding dropout time, 1 df for the BP group and 3 df for the control group were found to have the lowest AIC. With this model, each dropout time had its own curve and the marginal curve is the weighted average of the dropout-varying curves. The final MAX distance from adherence model included 1 and 3 df on time for the BP and control groups, respectively and 1 df for both groups on dropout.

Since we estimated the dropout distribution when calculating the marginal curve, we utilized a bootstrap to determine the 95% confidence intervals associated with the estimates at specific times, estimates of change, and corresponding differences between the conditions. We ran 5000 bootstrap models, where each of the 5000 datasets was made up of a random sample, with replacement, of the original dataset, making sure that the group sizes remained consistent.

We looked at the difference in change from 1 month to 6, 9, and 12 months. Also, given the nonlinear fit, we cannot compare slopes. The table below displays the results. All results are in the expected direction – **Significance was not achieved for MEAN distance from adherence, but the difference at 1 year and the difference in change from 1 month to 1 year are significant for MAX distance from adherence.**

Due to group differences and a priori decisions, the final model controlled for gender, service connection, number of medications at enrollment, alcohol abuse, alcohol dependence, time-varying SF-36 mental health and physical health scores and time-varying PRN use (yes/no).
HIGHER NUMBERS INDICATE WORSE ADHERENCE OR A WORSENING IN ADHERENCE
DIFFERENCE IS CONTROL MINUS BP

Estimated **MEAN** Percent Distance from Adherence with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	20.60 (16.91, 24.31)	24.42 (19.56, 29.69)	3.82 (-2.39, 10.38)
3 months	20.63 (17.56, 23.82)	24.84 (19.43, 30.28)	4.22 (-2.42, 10.62)
6 months	20.68 (17.47, 24.30)	26.15 (17.74, 34.49)	6.47 (-4.25, 17.87)
9 months	20.73 (16.24, 26.01)	32.56 (18.57, 49.49)	11.83 (-4.10, 29.43)
12 months	20.79 (14.57, 28.05)	39.82 (20.21, 62.24)	19.03 (-3.40, 42.30)
Change 1 to 3 months	0.035 (-1.42, 1.67)	0.432 (-4.01, 6.55)	0.397 (-4.45, 5.61)
Change 1 to 6 months	0.087 (-3.54, 4.16)	2.74 (-7.49, 14.86)	2.65 (-8.71, 14.84)
Change 1 to 9 months	0.138 (-5.66, 6.66)	8.14 (-6.86, 25.94)	8.01 (-9.09, 26.27)
Change 1 to 12 months	0.191 (-7.79, 9.16)	15.4 (-5.09, 38.77)	15.21 (-8.45, 39.32)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, alcohol dependence, SF-36 mental health and physical health scores (mean of subject means) and PRN use (mean of subject means)

Estimated **MAX** Percent Distance from Adherence with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	71.46 (54.04, 94.07)	65.15 (54.62, 76.43)	-6.31 (-30.87, 14.40)
3 months	60.06 (52.06, 68.30)	68.00 (57.42, 78.59)	7.94 (-5.85, 21.69)
6 months	63.01 (54.35, 73.39)	74.94 (55.58, 99.82)	11.93 (-11.38, 38.67)
9 months	63.51 (51.79, 78.56)	86.86 (56.54, 126.05)	23.35 (-12.97, 63.80)
12 months	42.63 (24.52, 63.65)	101.75 (56.67, 155.28)	**59.12** (6.62, 112.18)
Change 1 to 3 months	-11.4 (-31.85, 4.74)	2.85 (-7.55, 15.90)	14.25 (-6.10, 37.17)
Change 1 to 6 months	-8.45 (-33.36, 12.14)	9.79 (-13.25, 39.45)	18.24 (-15.75, 54.12)
Change 1 to 9 months	-7.95 (-31.42, 13.48)	21.71 (-11.89, 64.26)	29.67 (-13.49, 74.89)
Change 1 to 12 months	-28.83 (-61.36, 2.06)	36.60 (-10.60, 93.54)	**65.44** (5.72, 126.14)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, alcohol dependence, SF-36 mental health and physical health scores (mean of subject means) and PRN use (mean of subject means).

A secondary hypothesis was that patients in the BP condition will have significantly better treatment adherence with their PRN medications, as assessed by their monthly BARS-PRN rating, than patients in the DAU condition. This hypothesis was not supported, as the next two tables illustrate.

Estimated **MEAN** Percent Distance from Adherence – **PRN** - with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	3.87 (2.19, 5.86)	4.12 (2.51, 5.96)	0.249 (-2.35, 2.79)
3 months	3.42 (2.12, 5.07)	3.75 (2.30, 5.43)	0.324 (-1.89, 2.43)
6 months	2.75 (1.66, 4.27)	3.19 (1.57, 5.22)	0.436 (-1.84, 2.64)
9 months	2.09 (0.652, 3.98)	2.63 (0.442, 5.41)	0.548 (-2.43, 3.48)
12 months	1.42 (0, 3.97)	2.08 (0, 5.75)	0.660 (-3.41, 4.63)
Change 1 to 3 months	-0.445 (-1.03, 0.150)	-0.371 (-1.04, 0.330)	0.075 (-0.813, 0.937)
Change 1 to 6 months	-1.11 (-2.58, 0.374)	-0.926 (-2.59, 0.825)	0.189 (-2.03, 2.34)
Change 1 to 9 months	-1.78 (-4.12, 0.598)	-1.48 (-4.15, 1.32)	0.299 (-3.25, 3.75)
Change 1 to 12 months	-2.45 (-5.67, 0.823)	-2.04 (-5.70, 1.82)	0.411 (-4.47, 5.15)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, and alcohol dependence.

Estimated **MAX** Percent Distance from Adherence – **PRN** - with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	9.51 (5.06, 14.27)	8.33 (4.81, 13.07)	-1.18 (-7.34, 4.53)
3 months	8.46 (5.06, 12.41)	7.53 (4.77, 10.80)	-0.935 (-5.97, 3.50)
6 months	6.89 (4.26, 10.60)	6.32 (3.12, 10.33)	-0.574 (-5.69, 3.88)
9 months	5.32 (1.80, 10.42)	5.11 (0.424, 10.99)	-0.213 (-7.32, 6.13)
12 months	3.76 (0, 10.95)	3.91 (0, 12.04)	0.147 (-9.75, 9.20)
Change 1 to 3 months	-1.04 (-2.46, 0.673)	-0.804 (-2.30, 0.889)	0.240 (-2.08, 2.39)
Change 1 to 6 months	-2.61 (-6.15, 1.68)	-2.01 (-5.75, 2.22)	0.601 (-5.21, 5.98)
Change 1 to 9 months	-4.18 (-9.83, 2.69)	-3.22 (-9.20, 3.55)	0.962 (-8.33, 9.57)
Change 1 to 12 months	-5.75 (-13.52, 3.70)	-4.42 (-12.65, 4.89)	1.32 (-11.45, 13.16)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, and alcohol dependence.

The second primary hypothesis was that patients in the BP condition will have fewer overdoses, as assessed by Self-Harm Behavior Questionnaire (SHBQ) data, than patients in the DAU condition. This hypothesis could not be tested as there were no overdoses in either condition.

Two exploratory hypotheses were also proposed. The first was that patients in the BP condition will report less symptom distress, as assessed by the Outcome Questionnaire (OQ-45), than patients in the DAU condition. This hypothesis was supported, with significant differences noted in the change between 1 and 3 months as well as between 1 and 6 months, as illustrated in the following table. But the magnitude of the differences is too small to be clinically significant.

Estimated **OQ-45** - with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	75.74 (71.18, 80.45)	71.32 (66.25, 76.32)	-4.42 (-11.52, 3.59)
3 months	73.45 (68.92, 77.95)	71.92 (66.62, 77.07)	-1.53 (-8.80, 5.52)
6 months	71.47 (66.40, 76.14)	72.82 (66.37, 79.17)	1.35 (-6.77, 9.69)
9 months	71.72 (66.18, 76.57)	73.72 (65.50, 81.96)	2.00 (-7.58, 12.05)
12 months	73.39 (66.14, 79.90)	74.63 (64.40, 85.03)	1.24 (-10.68, 14.11)
Change 1 to 3 months	**-2.28** (-4.23, -0.342)	0.601 (-0.945, 2.20)	**2.89** (0.412, 5.52)
Change 1 to 6 months	**-4.26** (-8.00, -0.621)	1.50 (-2.36, 5.50)	**5.77** (0.552, 11.29)
Change 1 to 9 months	-4.01 (-8.68, 0.299)	2.41 (-3.78, 8.81)	6.42 (-0.933, 14.57)
Change 1 to 12 months	-2.35 (-9.27, 4.01)	3.31 (-5.20, 12.11)	5.66 (-4.62, 17.07)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, alcohol dependence, and PRN use (mean of subject means).

We also tested for differences between conditions on the three OQ-45 subscales. Significant differences were found for Symptom Distress (SD) in the change from 1 month to 3 months, 1 month to 6 months, and 1 month to 9 months. Participants in the blister pack condition improved, whereas participants in the control condition worsened. But as can be seen in the following table, the changes across comparison points and the differences across conditions were quite small, and not clinically significant. Average scores on SD were above the clinical cut-off of 36 at all time points, and a change of 10 or more points is considered clinically meaningful.

Estimated **OQ-45 – SD subscale** with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	44.61 (41.55, 47.48)	41.78 (38.77, 44.81)	-2.83 (-6.98, 1.50)
3 months	43.44 (10.48, 46.32)	42.32 (39.15, 45.45)	-1.12 (-5.45, 3.19)
6 months	42.19 (39.06, 45.32)	43.15 (39.20, 47.01	0.96 (-4.08, 6.00)
9 months	41.71 (38.51, 45.00)	43.97 (39.06, 48.77)	2.26 (-3.70, 8.15)
12 months	41.71 (37.47, 46.15)	44.79 (38.57, 50.85)	3.08 (-4.59, 10.58)
Change 1 to 3 months	**-1.17** (-2.29, -0.001)	0.549 (-0.409, 1.47)	**1.72** (0.225, 3.13)
Change 1 to 6 months	**-2.42** (-4.50, -0.188)	1.37 (-1.02, 3.67)	**3.79** (0.530, 6.82)
Change 1 to 9 months	**-2.90** (-5.49, -0.060)	2.20 (-1.64, 5.87)	**5.10** (0.308, 9.61)
Change 1 to 12 months	-2.90 (-7.05, 1.37)	3.02 (-2.25, 8.07)	5.92 (-0.880, 12.56)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, alcohol dependence, and PRN use (mean of subject means).

For the Interpersonal Relations (IR) subscale significant improvement was seen for participants in the blister pack condition as supported by the change from 1 month to 3 months and 1 month to 6 months. Scores at all time points were above the clinical cut-off of 15. Again, as illustrated in the table below, these changes were quite small (changes of 8 or more points are considered clinically meaningful). Additionally, there were not significant differences in the degree of change in the two conditions.

Estimated **OQ-45 – IR subscale** with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	18.92 (17.76, 20.06)	18.54 (17.15, 19.93)	-0.381 (-2.14, 1.51)
3 months	18.31 (17.12, 19.46)	18.31 (16.95, 19.72)	-0.004 (-1.84, 1.90)
6 months	17.76 (16.40, 19.06)	18.23 (16.57, 19.99)	0.464 (-1.69, 2.69)
9 months	17.80 (16.34, 19.18)	18.59 (16.43, 20.80)	0.791 (-1.81, 3.53)
12 months	18.20 (16.21, 20.08)	19.20 (16.36, 21.14)	1.00 (-2.40, 4.65)
Change 1 to 3 months	**-0.614** (-1.15, -0.066)	-0.237 (-0.815, 0.351)	0.377 (-0.458, 1.16)
Change 1 to 6 months	**-1.16** (-2.12, -0.181)	-0.313 (-1.60, 1.01)	0.845 (-0.817, 2.46)
Change 1 to 9 months	-1.13 (-2.26, 0.009)	0.047 (-1.83, 1.98)	1.17 (-1.00, 3.43)
Change 1 to 12 months	-0.725 (-2.47, 0.946)	0.658 (-1.95, 3.35)	1.38 (-1.67, 4.59)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, alcohol dependence, and PRN use (mean of subject means)

Finally, participants in the blister pack condition demonstrated significant improvement in Social Role (SR) scores from 1 month to 3 months and 1 month to 6 months. The degree of change across conditions was significant from 1 month to 3 months, with participants in the blister pack condition improving and participants in the control condition worsening. As illustrated below, although many mean scores were below the clinical cut-off of 12, those scores fell within the confidence intervals at all points and therefore are considered in the clinical range. The degree of significant change noted in all scores is well below the 7 points required to be considered clinically important.

Estimated **OQ-45 – SR subscale** with bootstrapped 95% CIs

Estimate	BP Group	Control	Difference
1 month	12.20 (11.17, 13.23)	11.25 (10.37, 12.17)	-0.950 (-2.32, 0.470)
3 months	11.60 (10.62, 12.45)	11.24 (10.31, 12.24)	-0.353 (-1.63, 1.11)
6 months	11.27 (10.08, 12.20)	11.24 (10.10, 12.45)	-0.038 (-1.46, 1.74)
9 months	11.84 (10.42, 12.94)	11.23 (9.83, 12.77)	-0.613 (-2.30, 1.64)
12 months	12.97 (11.09, 14.42)	11.22 (9.51, 13.10)	-1.76 (-3.84, 1.05)
Change 1 to 3 months	**-0.603** (-1.15, -0.148)	-0.006 (-0.269, 0.274)	**0.597** (0.062, 1.22)
Change 1 to 6 months	**-0.928** (-2.03, -0.011)	-0.015 (-0.671, 0.685)	0.913 (-0.209, 2.27)
Change 1 to 9 months	-0.361 (-1.80, 0.777)	-0.024 (-1.07, 1.10)	0.337 (-1.18, 2.19)
Change 1 to 12 months	0.772 (-1.13, 2.25)	-0.033 (-1.48, 1.51)	-0.805 (-2.80, 1.66)

Estimates are calculated at the overall mean gender, service connection, number of meds at enrollment, alcohol abuse, alcohol dependence, and PRN use (mean of subject means)

The second exploratory hypothesis was that patients in the BP condition would have fewer negative medical/psychiatric outcomes (i.e., emergency department (ED) visits, intensive care unit (ICU) admissions, and psychiatric inpatient admissions) for suicide-related behaviors, as assessed by the SHBQ, than patients in the DAU condition. This hypothesis was not supported, as illustrated in the table below. Additionally, there was only one ICU admission during the entire study, and it was unrelated to a suicide attempt. We used Poisson regression with time as an offset (as subjects were followed for different lengths of time) to model the number of events as a function of group, controlling for sex, service connection, number of medications at enrollment, alcohol abuse and alcohol dependence.

Outcome	Estimated percent increase due to BP group	95% CI	p-value
ER	15.0%	(-14.5%, 54.6%)	0.36
Psych	68.5%	(-7.6%, 207.2%)	0.09
Other	9.6%	(-33.0%, 79.5%)	0.71

The analyses were then re-run using logistic regression to model any event occurring (y/n) for a participant rather than the number of events.

Outcome	OR	95% CI	p-value
ER	0.83	(0.48, 1.41)	0.48
Psych	1.94	(0.65, 5.79)	0.24
Other	0.96	(0.47, 1.94)	0.90

Taken together, the results of this study indicate that patients benefit from having their medications dispensed in blister packs. The results of change in adherence for the medication with which patients exhibited the worst adherence suggest that the impact of blister packaging builds over time. The blister pack participants' adherence gradually improved from 1 month to 12 months, whereas the control condition participants got worse. It was at the 12 month comparison that the differences became statistically significant. And it was the change from 1 month to 12 months that was also significant. The data do not allow for direct tests of causal mechanisms explaining how blister packaging facilitates better adherence, but several hypotheses seem plausible. First, blister packaging may change patients' relationship with their medications. Because of the visual cues provided by empty versus full blisters, it is easier for patients to know when they have and have not taken their medications. This may in turn increase their sense of control over their medical care and lead to increased self-efficacy secondary to taking medications. Participants in the blister pack condition knew they were in the experimental arm and may have experienced some increased social demand to be adherent. It is also possible that their greater awareness of how they were taking their medications facilitated better communication with their providers, which in turn reinforced continued adherence. We know anecdotally from satisfaction questionnaires completed at the final follow-up that patients believed having their medications blister packed increased their awareness of what they were taking, how they were taking it, and why. Another possible benefit of blister packaging is indirectly supported by the results of differences in symptom distress reported by the two groups. Although both groups were above the clinical cut-off on the total Outcome Questionnaire-45 (OQ-45) score, indicating meaningful levels of distress experienced relative to their symptoms, we observed a decrease in scores for those in the blister pack condition and an increase for those in the control condition. The changes in scores between months 1 and 3 as well as between months 1 and 6 were statistically significant such that the participants in the blister pack condition

were reporting less symptom distress than those in the control condition. Similar patterns were noted for all three subscale scores of the OQ-45 where blister pack conditions participants improved and control condition participants reported increased distress. However, the degree of change and magnitude of statistically significant changes were not clinically significant. A tentative explanation for these changes is that as participants in the blister pack condition became more adherent they felt better emotionally and physically. Feeling better may have then made it easier to be adherent, because they were able to recognize a benefit of how they had been taking their medications. However, without adequate statistical power to test this assumption, future research is necessary to determine if blister packaging medication has a meaningful impact on the clinical benefit patients derive from taking their medications with better adherence to the prescribed regimen.

Although several group comparisons were not significant, the variance observed in the two groups also indirectly supports the benefit of blister packaging. Across types of medications (data not shown, but available on request) we consistently noted that there was less variability in adherence for participants in the blister pack condition and much more for those in the control condition. Additionally, participants in the blister pack condition tended to exhibit improvements in adherence over time (even when not statistically significant) whereas those in the control condition tended to exhibit worsening adherence over time.

We were not able to test the suicide-prevention hypothesis, though from a patient safety standpoint this was a very good thing. There were no overdoses in either condition. This finding is in itself somewhat surprising given the high risk sample and frequency of suicide attempts by overdose seen in Veteran patients. Because there were no overdoses in either condition, we cannot attribute this finding to how their medications were packaged. However, we do believe that another aspect of the study design may have at least contributed to the absence of overdoses. In order to reduce participant attrition, efforts were made to maintain frequent contact with participants over the course of the entire study. At the baseline appointment multiple contact information was gathered, the first follow-up appointment was scheduled, and participants were notified that study staff would be in regular contact with them regarding reminders about follow-up appointments. Participants were also told to feel free to contact study staff at any time with questions or issues related to the study. We ended up fielding many calls from participants which had a case management feel to them. For example, they needed a refill on a prescription and were reminded of how to request one. Also as part of the retention efforts, study staff always made general inquiries when speaking with participants about how they were doing, took notes, and made reference to important events on subsequent contacts. For example, asking how a family vacation had gone, or wishing someone a happy birthday. These efforts clearly had the planned effect on attrition rates, as our overall retention rate for the study was 55% (see dropout distribution for details).

Dropout Distribution

	< 30 days	30-89	90-149	150-209	210-269	270-329	330-360+	p-value
Overall (n=243)	4 (2%)	15 (6%)	13 (5%)	22 (9%)	25 (10%)	30 (12%)	134 (55%)	
BP (n=120)	2 (2%)	6 (5%)	6 (5%)	14 (12%)	13 (11%)	19 (16%)	60 (50%)	0.43
Control (n=123)	2 (2%)	9 (7%)	7 (6%)	8 (7%)	12 (10%)	11 (9%)	74 (60%)	

But we believe that there may have been an unintended clinical benefit as well. Specifically, participants felt cared for and strongly connected to the study staff. We believe those feelings had an overall positive effect on participants' functioning. Also, the study safety protocol required sharing newly collected information regarding suicide risk with participants' providers. Specifically, when a research assistant or study coordinator learned about new onset risk not documented in the patient's most recent clinical note in their electronic medical record they were required to inform the patient's provider of what they had learned. Patients were at times directly escorted from the study offices to their clinician's office for an emergency appointment, to the psychiatric emergency services in the outpatient mental health clinic, and on rare occasions an inpatient psychiatric hospitalization was facilitated. This level of monitoring is not standard practice and quite likely contributed to increased patient safety.

We believe that the observed significant benefits of blister packaging medications for patients at high risk of suicide justify further study to determine how this approach can best be used to manage suicide risk, improve patient functioning, and provide a cost-effective element of comprehensive care.

9. Other Achievements:

N/A

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11. Appendices:

A1 VITA

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Suicide risk factors, assessment, and prevention. Young adult suicidality. Cultural validity of assessment tools and suicide risk models. Scale development and psychometric evaluation.

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BOOK/CHAPTERS (8):

Jobes, D. A., Comtois, K. A., Brenner, L. A., Gutierrez, P. M., & O'Connor, S. S. (in press). Lessons learned from clinical trials of the Collaborative Assessment and Management of Suicidality (CAMS). In R. O'Connor, S. Platt, & J. Gordon (Eds.), *International handbook of suicide prevention: Research, policy, and practice, 2nd Edition*. West Sussex, UK: Wiley-Blackwell.

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PAPER PRESENTATIONS (62):

Gutierrez, P. M., & Shelef, L. (2015, March). Predictive Validity of Suicide-specific Measures. Shoresh military medicine conference, Ramat Gan, Israel.

Gutierrez, P. M., & Joiner, T. (2015, March). Military Suicide Research Consortium Treatment Studies. Shoresh military medicine conference, Ramat Gan, Israel.

Gutierrez, P. M. Veteran suicide risk assessment. Grand Rounds presentation at the University of Mississippi Medical Center, Department of Psychiatry and Human Behavior, Jackson, MS, September 5, 2014.

Gutierrez, P. M. Veteran suicide risk assessment. Presented at the American Psychological Association convention, Washington, DC, August 8, 2014.

Gutierrez, P. M. Is alcohol use really a direct risk factor for suicide? Presented at the Show Me You Care About Suicide Prevention Conference, Jefferson City, MO, July 15, 2014.

Gutierrez, P. M. Providing for our youngest Veterans: Similarities and Differences in College Student and Veteran Suicide Prevention Efforts. Presented at the Preventing Suicide Among Youth and Young Adults conference, Springfield, IL, April 25, 2014.

Chesin, M. S., Hughes, J., Andover, P., & Gutierrez, P. M. Developing and testing three novel adjunctive psychosocial interventions to prevent suicide and non-suicidal self-injury: An overview of the interventions, lessons learned, and preliminary outcomes. Presented at the American Association of Suicidology conference, Los Angeles, CA, April 10, 2014.

O'Connor, S. S., Villatte, J., & Gutierrez, P. M. Differences in characteristics of suicide attempts between active duty military personnel and veterans. Presented at the American Association of Suicidology conference, Los Angeles, CA, April 11, 2014.

Gutierrez, P.M. Toward a gold standard for suicide risk assessment for military personnel. Presented at the International Association for Suicide Prevention Congress, Oslo, Norway, September 27, 2013.

Gutierrez, P. M., Joiner, T., Blatt, A., & Castro, C. United States military suicide prevention research: Navigating challenges and capitalizing on opportunities. Presented at the International Academy of Suicide Research World Congress on Suicide, Montreal, Quebec, Canada, June 12, 2013.

Goodman, M., Gutierrez, P. M., Bossarte, R., Rasmusson, A. M., Brenner, L., & Stanley. B. Research updates and new directions for suicide prevention in the Veterans Administration. Discussant for symposium presented at the American Psychiatric Association annual meeting, San Francisco, CA, May, 19, 2013.

Gutierrez, P. M. Alcohol and suicide: A deadly cocktail or misinterpretation of data? Plenary address presented at the American Association of Suicidology conference, Austin, TX, April 26, 2013.

Gutierrez, P. M., Joiner, T., & Castro, C. Preventing suicide in the United States military: Research challenges and opportunities. Presented at the 14th European Symposium of Suicide & Suicidal Behavior, Tel Aviv-Jaffa, Israel, September 5, 2012.

Gutierrez, P. M., Castro, C., Fitek, D. J., Holloway, M., & Jobes, D. A. Status of DoD funded suicide research. Presented at the Annual DoD/VA Suicide Prevention Conference, Washington, DC, June 20, 2012.

Matarazzo, B., Gutierrez, P. M., & Silverman, M. M. The Self-Directed Violence Classification System: What it is and why it matters. Presented at the Annual DoD/VA Suicide Prevention Conference, Washington, DC, June 20, 2012.

Gutierrez, P. M., Fitek, D. J., Joiner, T., Holloway, M., Jobes, D., & Rudd, M. D. Status of Department of Defense funded suicide research. Featured Panel presentation at the American Association of Suicidology conference, Baltimore, MD, April 20, 2012.

Gutierrez, P. M. Navigating IRBs as a suicide researcher. Presented at the American Association of Suicidology conference, Baltimore, MD, April 19, 2012.

Kemp, J., Thompson, C., Brown, G. K., Brenner, L. A., & Gutierrez, P. M. VA continuum of care for suicidal Veterans. Panel presentation at the American Association of Suicidology conference, Portland, OR, April 16, 2011.

Gutierrez, P. M., & Lineberry, T. United States Army Medical Research and Materiel Command United States military suicide research: Activities and opportunities. Panel presentation at the American Association of Suicidology conference, Portland, OR, April 14, 2011.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Hedegaard, H., & Huggins, J. The Colorado Violent Death Reporting System (COVDRS): Exploring factors associated with suicide in VA and non-VA services utilizing Veterans. Presented at the American Association of Suicidology conference, Portland, OR, April 14, 2011.

Marshall, J., Gutierrez, P. M., Lineberry, T., & Jobes, D. United States Army Medical Research and Material Command United States military suicide research activities: Activities and opportunities. Panel presentation at the DOD/VA Annual Suicide Prevention Conference, Boston, MA, March 15, 2011.

Gutierrez, P. M., Bahraini, N., Basham, C. M., Brenner, L. A., Hedegaard, H., Denneson, L. M., & Dobscha, S. K. Lessons learned about veteran suicide from the Colorado and Oregon Violent Death Reporting Systems. Presented at the American Association of Suicidology conference, Orlando, FL, April 22, 2010.

Gutierrez, P. M. Blister packaging medication to increase treatment adherence and clinical response: Impact on suicide related morbidity and mortality. Presented at the 2010 DoD/VA Suicide Prevention Conference, Washington, DC, January 12, 2010.

Gutierrez, P. M. Theater of War. Plenary Panel member at the 2010 DoD/VA Suicide Prevention Conference, Washington, DC, January 12, 2010.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Hedegaard, H., Chase, M., & Shupe, A. The Colorado violent death reporting system: Exploring factors associated with suicide in VA and non-VA services utilizing veterans. Presented at the Centers for Disease Control and Prevention's NVDRS Reverse Site Visit, Denver, CO, May 14, 2009.

Leach, R. L., Breshears, R. E., Brenner, L. A., Homaifar, B. Y., Gutierrez, P. M., Gorgens, K. M., & Harwood, J. E. F. The utility of the Personality Assessment Inventory for predicting violence in veterans with traumatic brain injury. Presented at the Rehabilitation Psychology Conference, Jacksonville, FL, February 27, 2009.

Gutierrez, P. M. Collaborative assessment and management of suicide (CAMS): A feasibility study. DoD/VA Annual Suicide Prevention Conference, San Antonio, TX, January 13, 2009.

Gutierrez, P. M., Brenner, L. A., Homaifar, B. Y., & Olson-Madden, J. H. VA VISN 19 MIRECC research and clinical efforts at suicide prevention. Symposium presented at the American Psychological Association convention, Boston, MA, August 15, 2008.

Brausch, A. M., & Gutierrez, P. M. Body image and disordered eating in adolescent suicidality. Presented at the American Association of Suicidology conference, Boston, MA, April 17, 2008.

Gutierrez, P. M. Redefining diversity: The chronically suicidal veteran as one example. Presidential address at the American Association of Suicidology conference, Boston, MA, April 17, 2008.

Breshears, R. E., Brenner, L. A., & Gutierrez P. M. Predictive validity of the Personality Assessment Inventory in veterans with traumatic brain injury. Presented at the Rehabilitation Psychology Conference, Tucson, AZ, March 13, 2008.

King, C. A., Gutierrez, P. M., & Jobes, D. A. Looking back – looking ahead: American suicidology at mid-life. Plenary panel presentation at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Mazza, J. J., Reynolds, W. M., & Gutierrez, P. M. Screening for youth suicidal behavior revisited. Panel presentation at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Schumacher, M., Quinnett, P., & Gutierrez, P. M. QPRT suicide risk assessment and management course utility. Panel presentation at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Gutierrez, P. M. Change is good: What the past 40 years tell us about the future. Presidential address at the American Association of Suicidology conference, New Orleans, LA, April 12, 2007.

Gutierrez, P. M. Suicide in the young adult population. Presented at the Department of Veterans Affairs Employee Education System's Evidence-Based Interventions for Suicidal Persons conference, Denver, CO, February 8, 2007.

Rudd, M. D., Berman, L., Silverman, M. M., Gutierrez, P. M., & Schumacher, M. Warning signs for suicide: Theory, research, and clinical applications. Panel presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Freedenthal, S. L., & Gutierrez, P. M. Adolescents' disclosures of suicidality: Who knows? Presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Gutierrez, P. M. Shneidman Award Presentation – An integrated approach to assessing risk and protective factors for adolescent suicide. Presented at the American Association of Suicidology conference, Broomfield, CO, April 15, 2005.

Schumacher, M., & Gutierrez, P. M. Bipolar spectrum traits and suicide risk. Presented at the American Association of Suicidology conference, Broomfield, CO, April 15, 2005.

Gutierrez, P. M., & Osman, A. Prediction of adolescent suicide reattempts. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 22, 2004.

Gutierrez, P. M., & Konick, L. C. Evaluation of school-based suicide prevention programs. Presented at the Suicide Prevention: Advancing the Illinois Strategic Plan conference, Springfield, IL, September 23, 2004.

Williams, J. E., Osman, A., Barrios, F., Kopper, B. A., & Gutierrez, P. M. Reliability and validity of the Inventory for Suicide Ideation – 30. Presented at the American Psychological Society conference, Chicago, IL, May 28, 2004.

Hovey, J. D., Freedenthal, S., Gutierrez, P. M., & Fernquist, R. Career development strategies in suicide research #1: Working with a mentor. Panel presented at the American Association of Suicidology conference, Miami, FL, April 15, 2004.

Conwell, Y., Silverman, M., Gutierrez, P. M., Konick, L. C., & Muehlenkamp, J. J. Career development strategies in suicide research #3: Publishing your findings. Workshop presented at the American Association of Suicidology conference, Miami, FL, April 16, 2004.

Konick, L. C., & Gutierrez, P. M. Suicide risk in college students: A test of a model. Presented at the 2004 American Association of Suicidology conference, Miami, FL, April 16, 2004.

Brausch, A. M., & Gutierrez, P. M. Does this magazine make me look fat? Media's impact on body image, depression, and eating. Presented at the Midwestern Psychological Association Conference, Chicago, IL, May 1, 2004.

Muehlenkamp, J. J., Swanson, J., & Gutierrez, P. M. Differences between self-injury and suicide on measures of depression and suicidal ideation. Presented at the Midwestern Psychological Association annual meeting, Chicago, IL, May 9, 2003.

Kaplan, M., Schultz, D., Gutierrez, P. M., Sanddal, N., & Fernquist, N. Suicide research: Working with a mentor. Panel presentation at the American Association of Suicidology annual conference, Santa Fe, NM, April 24, 2003.

Konick, L. C., & Gutierrez, P. M. Is spirituality a moderator of risk for suicide? Presented at the American Association of Suicidology annual conference, Santa Fe, NM, April 25, 2003.

Watkins, R. L., & Gutierrez, P. M. Exposure to peer suicide in college students. Presented at the American Association of Suicidology annual conference, Santa Fe, NM, April 25, 2003.

Gutierrez, P. M., Osman, A., Watkins, R. L., Konick, L. C., Muehlenkamp, J. J., & Brausch, A. M. Development and validation of the Suicide Resilience Inventory - 25 (SRI-25) in clinical and nonclinical samples. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 19, 2002.

Konick, L. C., Brausch, A. M., Gutierrez, P. M., & Pawlowski, C. CBT in depressed kids: What factors moderate treatment effectiveness? Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 19, 2002.

Hovey, J. D., Gutierrez, P. M., & Jha, A. Measuring cultural risk factors in suicide research. Panel presented at the American Association of Suicidology annual conference, Atlanta, GA, April 19, 2001.

Gutierrez, P. M., Osman, A., Barrios, F. X., & Kopper, B. A. The Self-Harm Behavior Questionnaire. Presented at the American Association of Suicidology annual conference, Atlanta, GA, April 21, 2001.

Gutierrez, P. M., Collura, D., & Watkins, R. A case for regular suicide risk screening in high schools. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 14, 2000.

Osman, A., Gutierrez, P. M., Kopper, B. A., Barrios, F. X., Breitenstein, J. L., & Silich, N. Validity and utility of the Adolescent Psychopathology Scale (APS) with adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 13, 2000.

Kopper, B. A., Gutierrez, P. M., Osman, A., & Barrios, F. X. Helping kids stay alive: The Reasons for Living Inventory - Adolescents. Presented at Western Psychological Association Annual Convention, Portland, OR, April 14, 2000.

Gutierrez, P. M., Rodriguez, P. J., & Foat, N. K. A model of late adolescent suicidality. Presented at the American Association of Suicidology annual conference, Houston, TX, April 15, 1999.

Gutierrez, P. M., Osman, A., Kopper, B. A., & Barrios, F. X. Quality of risk assessment with common measures. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 18, 1998.

POSTER PRESENTATIONS (54):

Morris, B., O'Connor, S., Johnson, L. L., Jobes, D. A., Gutierrez, P. M., & Kaminer, B. B. Examining group differences between suicidal veterans classified as wish to live, ambivalent, or wish to die using the suicide index score. Presented at the American Association of Suicidology conference, Los Angeles, CA, April 11, 2014.

Davidson, C. L., Babson, K. A., Hostetter, T. A., Crowley, K. J., Forster, J. F., Gutierrez, P. M.. *Exploring the relationship between physical activity and suicide risk among Veterans in the Behavioral Risk Factor Surveillance System Questionnaire.* Poster presented at the Suicide and Self-Injury Special Interest Group at the annual Association of Behavioral and Cognitive Therapies Conference, Nashville, TN, November 22, 2013.

Soberay, K., Dwyer, M., Hanson, J., Ribeiro, J., Gronau, K., Gutierrez, P. M., & Maner, J. Exploring the MSRC common data elements: The relationship between TBI, severe insomnia, and suicidal behaviors in military populations. Presented at the American Psychological Association conference, Honolulu, HI, August 1, 2013.

Pease, J., Soberay, K., Dwyer, M., Gronau, K., & Gutierrez, P. M. Thwarted belonging makes a modest contribution to suicidal ideation after controlling for universalism and relationships. Presented at the American Psychological Association conference, Honolulu, HI, August 1, 2013.

Leitner, R., Gutierrez, P. M., Brenner, L., Wortzel, H., Forster, J. E., & Huggins, J. Psychometric properties of the Self-harm Behavior Questionnaire in Veterans. Presented at the American Psychological Association conference, Honolulu, HI, July 31, 2013.

Dwyer, M. M., Soberay, K., Hanson, J., & Gutierrez, P. M. Military suicide research consortium (MSRC). Presented at the American Association of Suicidology conference, Austin, TX, April 26, 2013.

Rings, J. A., Gutierrez, P. M., Harwood, J. E. F., & Leitner, R. Examining prolonged grief symptomatology and its relationship to self-directed violence among Veterans. Presented at the Veterans Affairs Mental Health Conference. Baltimore, MD, August 23, 2011.

Rings, J. A., Gutierrez, P. M., & Harwood, J. E. F. Prolonged grief disorder and its relationship to self-directed violence among Veterans: Preliminary findings. Presented at the Departments of Defense and Veterans Affairs Suicide Prevention Conference. Boston, MA, March 15, 2011.

Huggins, J., Homaifar, B.Y., Skopp, N.A., Reger, M., Gahm, G., Gutierrez, P., & Brenner, L.A. Suicide prevention through the transformation of data into information. Presented at the Departments of Defense and Veterans Affairs Suicide Prevention Conference. Boston, MA, March 15, 2011.

Betthauser, L. M., Allen, E., Brenner, L. A., & Gutierrez, P. M. Centrality of intimate relationships on failed belongingness and perceived burdensomeness in returning combat Veterans. Presented at the International Association for Relationship Research, Lawrence, KS, November, 2009.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Huggins, J., Hedegaard, H., Shupe, A., & Chase, M. The Colorado violent death reporting system: Exploring factors associated with suicide in VA and non-VA services utilizing veterans. Presented at the American Psychological Association conference, Toronto, Ontario Canada, August 6, 2009.

Brausch, A. M., & Gutierrez, P. M. Psychosocial factors related to non-suicidal self-injury in adolescents. Presented at the American Association of Suicidology annual conference, San Francisco, CA, April 17, 2009.

Ballard, E. D., Jobes, D., Brenner, L., Gutierrez, P. M., Nagamoto, H., Kemp, J., et al. Qualitative suicide status form responses of suicidal veterans. Presented at the American Association of Suicidology conference, Boston, MA, April 18, 2008.

Bahraini, N., Gutierrez, P. M., Brenner, L. A., Staves, P., Cornette, M., & Betthauser, L. Pain tolerance and links to increased suicide risk. Presented at the American Association of Suicidology conference, Boston, MA, April 18, 2008.

Cornette, M. M., DeBoard, R. L., Clark, D. C., Holloway, R. H., Brenner, L., Gutierrez, P. M., & Joiner, T. E. Examination of an interpersonal-behavioural model of suicide: Toward greater specificity in suicide risk prediction. Presented at the International Association for Suicide Prevention conference, Dublin, Ireland, August 31, 2007.

Brenner, L. A., Gutierrez, P. M., Cornette, M., Staves, P. J., & Betthauser, L. M. Veterans' experiences of habituation to painful stimuli, perceived burdensomeness and failed belongingness. Presented at the American Psychological Association conference, San Francisco, CA, August 19, 2007.

Fang, Q., Choma, K., Salvatore, A., Mack, T., Bailey, J., & Gutierrez, P. M. Validation of the Pain Distress Inventory using an adolescent inpatient sample. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 19, 2006.

Brausch, A. M., & Gutierrez, P. M. Adolescent gender differences in reasons for living. Poster presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Swanson, J. D., & Gutierrez, P. M. Gender, social support, and student suicidality. Poster presented at the American Association of Suicidology conference, Seattle, WA, April 30, 2006.

Kopper, B. A., Osman, A., Gutierrez, P. M., Williams, J. E., & Barrios, F. X. Suicide Resilience Inventory-25: Validation with normal and adolescent psychiatric inpatients. Poster presented at the 2005 APA conference, Washington, DC.

Kopper, B. A., Osman, A., Barrios, F. X., Gutierrez, P. M., & Williams, J. E. The Beck Depression Inventory-II with nonclinical and inpatient adolescents. Poster presented at the 2005 APA conference, Washington, DC.

Brausch, A. M., & Gutierrez, P. M. Ethnic differences in body image, affect, and eating behaviors and the impact of media exposure. Presented at the Association for the Advancement of Behavior Therapy conference, New Orleans, LA, November 11, 2004.

Muehlenkamp, J. J., & Gutierrez, P. M. Validation of the Self-Harm Behavior Questionnaire in adolescents. Presented at the Association for the Advancement of Behavior Therapy conference, New Orleans, LA, November 11, 2004.

Linden, S., Osman, A., Barrios, F. X., Kopper, B. A., Williams, J. E., & Gutierrez, P. M. Structure of the Adolescent Psychopathology Scale (APS) clinical subscales in psychiatric inpatients. Presented at the Association for the Advancement of Behavior Therapy conference, New Orleans, LA, November 11, 2004.

Osman, A., Williams, J. E., Barrios, F. X., Kopper, B. A., Gutierrez, P. M., Linden, S. C., & Carlson, N. Development of cutoff scores for the Beck scales in adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 21, 2004.

Osman, A., Barrios, F. X., Gutierrez, P. M., Kopper, B. A., Williams, J. E., Carlson, N., & Koser, K. Reliability and validity of the Multidimensional Anxiety Scale for Children and the Children's Depression Inventory. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 21, 2004.

Osman, A., Gutierrez, P. M., Barrios, F. X., Kopper, B. A., Linden, S. C., Carlson, N., & Koser, K. The Reynolds Adolescent Depression Scale 2: Reliability and validity. Presented at the Kansas Conference in Clinical Child and Adolescent Psychology, Lawrence, KS, October 21, 2004.

Muehlenkamp, J. J., & Gutierrez, P. M. Are self-injurious behaviors and suicide attempts different points on the same continuum? Presented at the Suicide Prevention: Advancing the Illinois Strategic Plan conference, Springfield, IL, September 23, 2004.

Brausch, A. M., Swanson, J., & Gutierrez, P. M. Parent marital status, depression and suicide. Presented at the American Association of Suicidology conference, Miami, FL, April 16, 2004.

Konick, L. C., Gutierrez, P. M., Muehlenkamp, J. J., Watkins, R. L., Ward, K. E., & Haase, K. Development of the Spiritual Attitudes and Beliefs Inventory: Phase II. Presented at the Midwestern Psychological Association annual meeting, Chicago, IL, May 8, 2003.

Konick, L. C., Gutierrez, P. M., & Watkins, R. L. Adult Suicidal Ideation Questionnaire psychometrics. Presented at the American Association of Suicidology annual conference, Santa Fe, NM, April 25, 2003.

Gutierrez, P. M., & Muehlenkamp, J. J. Understanding differences between self-injurious behavior and suicide attempts in high school students. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Gutierrez, P. M., Osman, A., Brausch, A. M., Muehlenkamp, J. J., Watkins, R. L., & Konick, L. C. Reliability and validity of the Beck scales in the assessment of suicide-related behaviors in adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Gutierrez, P. M., Osman, A., Watkins, R. L., & Muehlenkamp, J. J. Potential racial differences in adolescent suicide risk. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Osman, A., Gutierrez, P. M., Kopper, B, A., Barrios, F. X., Boyle, T., & Duncan, A. The Inventory of Suicide Orientation - 30: Further validation with adolescent inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Osman, A., Linden, S., Gutierrez, P. M., Barrios, F. X., Kopper, B. A., & Forman, K. Validity of the Adolescent Psychopathology Content Scales (APS) in Pediatric Medical Institute for Children (PMIC) inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October, 18, 2002.

Konick, L. C., Wrangham, J. J., Gutierrez, P. M., Blacker, D., Watkins, R. L., Aalders, G., Giannerini, J., Miller, M. J., Rapp, J. M., Shayne, L. E., & Ward, K. E. Development of the Spiritual Attitudes and Beliefs Inventory (SABI). Presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL, May 2, 2002.

Gutierrez, P. M., Wrangham, J., Konick, L., Osman, A., & Barrios, F. X. Does ethnicity influence adolescent suicide risk? Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 12, 2002.

Wrangham, J., Gutierrez, P. M., Osman, A., & Barrios, F. X. Validation of the PANSI with minority young adults. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 12, 2002.

Konick, L. C., Brandt, L. A., & Gutierrez, P. M. School-based suicide prevention programs: A meta-analysis. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 12, 2002.

Gutierrez, P. M., Osman, A., Kopper, B. A., & Barrios, F. X. Use of the Multi-Attitude Suicide Tendency Scale with minority individuals. Presented at the meeting of the Midwestern Psychological Association, Chicago, IL, May 4, 2001.

Valentiner, D., Gutierrez, P. M., Deacon, B., & Blacker, D. Factor structure and incremental validity of the Anxiety Sensitivity Index for Children in an adolescent sample. Presented at the annual meeting of the Society for Research in Child Development, Minneapolis, MN, April 21, 2001.

Gutierrez, P.M., Rodriguez, P. J., & Garcia, P. Minority suicide risk. Presented at the American Association of Suicidology annual conference, Los Angeles, CA, April 13, 2000.

Kopper, B. A., Gutierrez, P. M., Osman, A., Barrios, F. X., Baker, M. T., & Haraburda, C. M. Reasons for Living Inventory for Young Adults: Psychometric properties. Presented for Division 17 - Counseling Psychology - at the annual convention of the American Psychological Association, Washington, DC, August 5, 2000.

Kopper, B. A., Gutierrez, P. M., Osman, A., Barrios, F. X., & Bagge, C. L. Assessment of suicidal ideation in college students. Presented for Division 17 - Counseling Psychology - at the annual convention of the American Psychological Association, Washington, DC, August 5, 2000.

Gutierrez, P. M., Rubin, E. C., & Blacker, D. A preliminary investigation of the role of suicide exposure and attitudes about death on adolescent suicidal ideation. Presented at the Midwestern Psychological Association annual conference, Chicago, IL, May 4, 2000.

Martin, H., & Gutierrez, P. M. The role of mediating factors on the long-term relationship between early parental death and later depression and anxiety. Presented at the Midwestern Psychological Association Annual Conference, Chicago, IL, May 4, 2000.

Kopper, B. A., Osman, A., Gilpin, A. R., Panak, W. F., Barrios, F. X., Gutierrez, P. M., & Chiros, C. E. The Multi-Attitude Suicide Tendency Scale: Further validation with adolescent psychiatric inpatients. Presented at the annual convention of the American Psychological Association, Boston, MA August 22, 1999.

Kopper, B. A., Osman, A., Linehan, M. M., Barrios, F. X., Gutierrez, P. M., & Bagge, C. L. Validation of the Adult Suicide Ideation Questionnaire and the Reasons for Living Inventory in an adult psychiatric inpatient sample. Presented at the annual convention of the American Psychological Association, Boston, MA August 22, 1999.

Osman, A., Bagge, C. L., Barrios, F. X., Gutierrez, P. M., & Kopper, B. A. Receiver operating characteristic curve analyses of the Beck Depression Inventory - II in adolescent psychiatric inpatients. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 9, 1998.

Osman, A., Bagge, C. L., Gutierrez, P. M., Kopper, B. A., & Barrios, F. X. Validation of the Reasons for Living Inventory for Adolescents (RFL-A) in a clinical sample. Presented at the Kansas Conference in Clinical Child Psychology, Lawrence, KS, October 9, 1998.

Kopper, B. A., Osman, A., Hoffman, J., Gutierrez, P. M., & Barrios, F. X. Reliability and validity of the BDI-II with inpatient psychiatric adolescents. Presented at Division 12 - Clinical Psychology - at the annual convention of the American Psychological Association, San Francisco, CA, August 16, 1998.

Gutierrez, P. M., & Hagstrom, A. H. Uses for the Multi-Attitude Suicide Tendency Scale. Presented at the American Association of Suicidology annual conference, Bethesda, MD, April 17, 1998.

Gutierrez, P., & Williams, J. Children's understanding of death. Presented at the Midwestern Psychological Association annual meeting, Chicago, IL, May, 3, 1991.

GRANTS:

10/12-9/15 Department of Veterans Affairs National Center for Patient Safety; Advisory Board member (PI Monica Matthieu, Ph.D., LCSW); **$569,222** for *Patient Safety Center of Inquiry for Suicide Prevention.*

7/12-7/15 Military Suicide Research Consortium; Principal Investigator; **$2,381,228** for *Toward a Gold Standard for Suicide Risk Assessment for Military Personnel.*

3/11-2/13 Department of Defense, Military Operational Medicine Research Program, grant; Consultant (PI Steven Vannoy, Ph.D., MPH); **$1,354,386** for *Development and Validation of a Theory Based Screening Process for Suicide Risk.*

3/11-3/15 Department of Defense, Military Operational Medicine Research Program, grant; Co-Investigator; **$3,400,000** for *A Randomized Clinical Trial of the Collaborative Assessment and Management of Suicidality vs. Enhanced Care as Usual for Suicidal Soldiers.*

9/10-9/15 Department of Defense, Military Operational Medicine Research Program, grant; Principal Investigator: jointly with Thomas Joiner, Ph.D., Florida State University; **$15,000,000 (additional $15,000,000 going to FSU)** for *Military Suicide Research Consortium.*

9/09-9/14 Department of Defense, Military Operational Medicine Research Program, grant; Principal Investigator; **$1,173,408** for *Blister Packaging Medication to Increase Treatment Adherence and Clinical Response: Impact on Suicide-related Morbidity and Mortality.*

5/09-5/10 Colorado TBI Trust Fund Education grant; **$8427** to support the hosting of a conference of national experts in suicide safety planning and TBI rehabilitation.

5/08-5/09 Colorado TBI Trust Fund Education grant; **$5,000** to support the hosting of a conference of national experts in assessment of TBI and suicide risk and the role of executive dysfunction in linking the two problems.

HONORS AND AWARDS:

2014 Roger J. Tierney Award for Service, American Association of Suicidology.

2005 Shneidman Award for Significant Contributions to Suicide Research, American Association of Suicidology.

2003 Outstanding Young Alumni, Winona State University

PROFESSIONAL SERVICE:

6/14-8/14 Expert Adviser for the Royal Australian & New Zealand College of Psychiatrists Clinical Practice Guidelines Project on Deliberate Self-harm, Prof. Gregory Carter, Chair

1/12- Department of Psychiatry Faculty Promotions Committee

1/12- Editorial Board Member, *Archives of Suicide Research*, Barbara Stanley, Ph.D., Editor-in-Chief

4/09- Associate Editor, *Suicide and Life-Threatening Behavior*, Thomas Joiner, Ph.D., Editor-in-Chief.

4/09-4/11 Past-president, Board position, of the American Association of Suicidology.

3/09-12/09 U. S. Army Suicide Reduction and Prevention Research Strategic Planning Workgroup, Soldier Identification and Case Management Expert Lead.

5/07-10/08 Member of the International Advisory Board for the Australian National Study of Self Injury (ANESSI), Professor Graham Martin, Director.

4/07-4/09 President of the American Association of Suicidology.

3/06-3/07 Reviewer for National Registry of Evidence-based Programs and Practices, Substance Abuse and Mental Health Services Administration.

4/05-4/07	President-Elect of the American Association of Suicidology.
2/04-4/09	Consulting Editor and Editorial Board member, *Suicide and Life-Threatening Behavior*, Morton M. Silverman, M.D., Editor-in-Chief.
11/02-6/06	Member, Illinois Suicide Prevention Strategic Planning Task Force, Illinois Department of Public Health.
3/02-1/06	Member, American Association of Suicidology Institutional Review Board.
4/00-4/03	Director, Research Division, American Association of Suicidology.
4/99-	Ad hoc reviewer for *Psychiatry Research; Journal of Personality Assessment; American Journal of Public Health; Internal Journal of Circumpolar Health; Death Studies; Social Problems; Journal of Adolescent Research; Child Abuse and Neglect; British Journal of Clinical Psychology; Journal of Clinical and Consulting Psychology; Journal of Abnormal Psychology; International Journal of Psychology; Archives of Suicide Research; American Journal of Orthopsychiatry; Journal of Mental Health Counseling; Crisis.*
1998-2002	Member, North Central Association Outcomes Endorsement Team for Auburn High School, Rockford, IL.
7/98-4/00	Chair, Publications Committee, American Association of Suicidology.
1998-2006	Director, Adolescent Risk Project, Auburn High School, Rockford, IL. Combined research and suicide risk screening project.
1997-2006	Faculty Associate of the Center for Latino and Latin-American Studies at Northern Illinois University.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS:

2010-	International Academy for Suicide Research, Fellow
2007-	Colorado Psychological Association
2003-2010	International Academy for Suicide Research, Associate Member
1999-	APA Div. 12, Section VII, Clinical Emergencies and Crises
1998-2010	APA Div. 53, Society of Clinical Child and Adolescent Psychology
1997-2007	Midwestern Psychological Association
1996-	American Association of Suicidology

A2 Book Chapter

1. A book chapter describing the background for the study, methodological overview, and potential impact of the findings has been published:

   Gutierrez, P. M., Brenner, L. A., Wortzel, H., Harwood, J. E. F., Leitner, R., Rings, J., & Bartlett, S. (2012). Blister packaging medication to increase treatment adherence and clinical response: Impact on suicide-related morbidity and mortality. In J. Lavigne & J. Kemp (Eds.), *Frontiers in suicide prevention and research.* Hauppauge, NY: Nova Science Publishers, Inc.

ABSTRACT:

Medication overdoses account for substantial numbers of cases of self-directed violence (SDV) in several segments of the United States (US) population. The purpose of the study described in this chapter is to determine if medication administration via blister packaging is associated with an increase in treatment adherence and a decrease in intentional overdoses among a high risk population of patients either discharged from psychiatric inpatient units or receiving care in outpatient mental health or substance abuse clinics. As such the research aims of the project to be described are as follows: 1) To explore whether blister packaging medication decreases overall symptom distress; 2) To explore whether blister packaging medication reduces additional negative medical and psychiatric outcomes (e.g., emergency department admissions, psychiatric hospitalizations); and 3) To explore whether blister packaging medication reduces health care utilization (e.g., clinic visits). If hypotheses are supported, findings from this study will provide evidence that this means of dispensing prescription medications decreases suicide risk through two mechanisms. Specifically, it is expected that increasing adherence will result in a decrease in symptoms reported as well as overall psychological distress. This alone would be expected to decrease an individual's suicide risk. Also, creating appropriate means restriction should result in reduced morbidity and mortality resulting from intentional and accidental overdoses. The theoretical and empirical background, rationale, methods, and measures described in this chapter should help clinicians to appreciate the potential utility of blister packaging medications for their high-risk patients and provide researchers with a promising line of study in the realm of suicide means restriction.

A3. Study Questionnaires and surveys

We were informed that since a copy of these measures is already in our files, it was not necessary to include copies of the questionnaires in the final report.

a. Demographic Questionnaire
b. MINI – The Mini-International Neuropsychiatric Interview
c. The Outcome Questionnaire-45 (OQ-45)
d. The Medical Outcomes Study Short Form-36 (SF-36)
e. Self-Harm Behavior Questionnaire (SHBQ)
f. Brief Adherence Rating Scale (BARS)
g. Modified BARS (BARS-PRN)
h. Narrative Evaluation of Intervention Interview (NEII)